

REMARKS

Claims 4 and 6-14 are pending in this application. Of those claims, claims 6-11 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. §1.142(b). Claim 4 has been amended. Care has been exercised to avoid the introduction of new matter. Support for the amendment of claim 4 can be found in, for example, Figs. 2 and 10; and page 8, lines 5-15 of the specification.

Claims 4 and 12-14 are now active in this application, of which claim 4 is independent.

Claim 4 has been rejected under 35 U.S.C. § 112, second paragraph.

The Examiner asserted that claim 4 includes improper languages and an insufficient antecedent basis issue. Claim 4 has been amended to recite that the straight line of the magnetic recording element is parallel to the easy axis, and that the side face of the magnetic recording element and the side face of the first conductor are aligned at the direction of the hard axis.

Applicants believe that the amendments of claim 4 address the Examiner's concerns.

Withdrawal of the rejection of claim 4 is, therefore, respectfully solicited.

Claim 4 has been rejected under 35 U.S.C. § 102(e) as being anticipated by Perner et al.

The Examiner asserted that Perner et al. discloses an apparatus of coupling conductors in a magnetic memory identically corresponding to what is claimed.

Applicants submit that Perner et al. does not identically disclose a magnetic recording device including all the limitations recited in independent claim 4 which reads:

A magnetic recording device having a second conductor, a first conductor and a magnetic recording element connected to said first conductor, provided sequentially in this order along a direction, wherein

a configuration of said magnetic recording element includes a straight line parallel to an easy axis of said magnetic recording element, said easy axis extending perpendicular to the direction,

said first conductor extends along a hard axis of said magnetic recording element, said hard axis extending perpendicular to the direction,

said second conductor extends along said easy axis, and

a side face of said magnetic recording element and a side face of said first conductor are aligned with each other at the direction of said hard axis.

In the Office Action, the Examiner identified memory element 222 and conductor 226 of Perner et al. as the claimed magnetic recording element and the first conductor, respectively.

However, Perner et al. does not disclose, at a minimum, the claimed second conductor, as well as the claimed first conductor, for the reasons set forth below.

Claim 4 requires that the second conductor, the first conductor, and the magnetic recording element be provided sequentially in that order along a direction. The first conductor extends along the hard axis of the magnetic recording element, while the second conductor extends along the easy axis. The hard axis and the easy axis extend perpendicular to the direction. The side face of the magnetic recording element and the side face of the first conductor are aligned with each other at the direction of the hard axis.

For the sake of this response, Applicants assume conductor 229 of Perner et al. to be the second conductor. In Fig. 6 of Perner et al., the face of memory element 222 and the faces of conductors 226 and 229 are at the same position in the Y direction. Perner et al. in column 6, lines 47-52 describes that the X direction corresponds to an easy axis. Therefore, Perner et al. suggests that the face of memory element 222 and the faces of conductors 226 and 229 be at the

same position in the hard axis. On that basis, Applicants submit that conductors 226 and 229, extending along the X direction in Fig. 6, extend parallel to the easy axis. Accordingly, conductors 226 and 229 cannot be the claimed first and second conductors at least because the claimed first conductor extends along the hard axis of the magnetic recording element, while the claimed second conductor extends along the easy axis.

It is noted that the extended direction of the claimed first conductor parallel to the hard axis is not just a matter of design choice. The extended direction of the first conductor can be arranged to be perpendicular to the extended direction of the second conductor. The extended direction of the second conductor can also be arranged to be parallel to the easy axis.

The first conductor can be connected to the magnetic recording element in a direction perpendicular to both the easy axis and hard axis. Thus, the electrical properties of the magnetic recording element (e.g., magnitude of tunneling current in a direction perpendicular to a surface of the film; see page 1, lines 15-21 of specification) can be transmitted to the outside. Such electric properties can be controlled by the second conductor which can apply a magnetic field in a direction of hard axis (see page 8, lines 9-15, and Fig. 43). The current for applying a magnetic field in the direction of the hard axis may need to flow in parallel with the easy axis so that the second conductor can extend in parallel to the easy axis. In addition, the first conductor extends in parallel to the hard axis which is perpendicular to the extended direction of the second conductor. Thus, the electric properties of the magnetic recording element can be taken outside without any interruption of the second conductor. Therefore, setting the extended direction of the first conductor in parallel with the hard axis is beyond the scope of mere design choice.

Based on the foregoing, applicants submit that Perner et al. does not identically disclose a magnetic recording device including all the limitations recited in independent claim 4.

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Applicants, therefore, respectfully solicit withdrawal of the rejection of claim 4 and favorable consideration thereof.

Claims 12-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Perner et al. in view of Ounadjela et al.

Claims 12-14 depend from independent claim 4. Applicants thus incorporate herein the arguments made in response to the rejection of claim 4 under 35 U.S.C. §102 for anticipation evidenced by Perner et al. The Examiner's additional comments and secondary reference to Ounadjela et al. do not cure the previously argued deficiencies in Perner et al. Applicants, therefore, respectfully solicit withdrawal of the rejection of the claims and favorable consideration thereof.

Conclusion

It should, therefore, be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

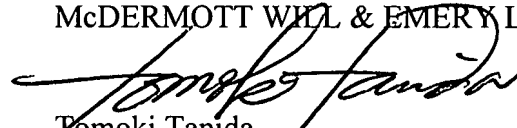
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

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including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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